

discloses a fingerprint recognizing apparatus that uses an *optical* fingerprint sensor, and Setlak et al. discloses a fingerprint recognizing apparatus that uses an *electric field* fingerprint sensor.

As applicants also explained (see the paragraph bridging pages 12 and 13 of the submission), although the rejection relies on Setlak et al. to suggest modifying the Bradney et al. fingerprint recognizing apparatus to have a “contact section being electrically connected to the ground” as described in the claims, the first Office Action did not clearly indicate which elements of the Bradney et al. fingerprint recognizing apparatus would be removed and which elements of the Setlak et al. apparatus would be added.

The January 25, 2005 Office Action, in paragraph No. 7 at the top of page 4, provides an example modification: in the Bradney et al. fingerprint recognizing apparatus, the entire optical fingerprint sensor of the Bradney et al. system is replaced with the electric field fingerprint sensor of Setlak et al. Although not clearly stated, the Office Action implies in the next paragraph that the modified Bradney et al. system would retain its original “flip-top cover housing” and “contact section.” (Flip-top cover 86 is relied upon to teach the “cover,” and the area of membrane 58 is relied upon to teach the “contact section.”)

Applicants now explain why neither of the requirements quoted above from MPEP § 2143 are fulfilled to justify the obviousness rejection.

Regarding the first requirement, that there is some suggestion or motivation to modify the reference or to combine reference teachings, the Office Action does not provide a proper suggestion or motivation to modify the Bradney et al. fingerprint recognizing apparatus by replacing its optical fingerprint sensor elements with elements of the Setlak et al. electric field fingerprint sensor. Instead, for the suggestion or motivation, the Office Action discusses the prior art as follows:

According to statements in paragraph No. 9 of the Office Action, page 4, Setlak et al. supposedly discloses “advantages” over the optical fingerprint sensors, such as that of Bradney et al., and thereby motivates the modification of the Bradney et al. fingerprint recognizing apparatus as described in the Office Action. In particular, the Office Action cites a portion of column 6<sup>1</sup> of the Setlak et al. disclosure, which states that the finger charge bleed means and power control means may be configured to conserve power and to provide ESD (electro-static discharge) protection.

However, the citation in column 6 is not a comparison of the Setlak et al. electric field fingerprint sensor with prior art optical fingerprint sensors as discussed back in the background section of the document (see column 1, lines 21-48). Also, unlike the statements in column 4, lines 66, through column 5, line 6, which specifically distinguish the Setlak et al. electric field fingerprint sensor from a typical optical fingerprint sensor,<sup>2</sup> the cited text of columns 6 describes an embodiment that is either a modification of or a more detailed description of the previously-described embodiment of the Setlak et al. electric field fingerprint sensor.

Thus, although the Office Action asserts on page 4 in paragraph No. 9 that the prior art suggests that power conservation and ESD protection would be the result of modifying the Bradney et al. fingerprint recognizing apparatus, the text relied upon to support that statement does *not* teach that the Setlak et al. electric field fingerprint sensor uses less power and protects

<sup>1</sup> In the first Office Action, lines 55-58 of column 6 are cited. In the second Office Action, lines 50-55 are cited.

<sup>2</sup> Although this text states that Setlak et al. electric field fingerprint sensor might be more reliable than an optical fingerprint sensor, the statement does not apply to the Bradney et al. optical fingerprint sensor for the following reason: The optical fingerprint sensor referred to by Setlak et al. could supposedly be deceived by a photograph of a fingerprint. (Column 5, lines 4-6.) However, Bradney et al. discloses an optical fingerprint sensor that includes a thin membrane 58 in which the operator depresses. A reflective surface on the underside of membrane 58 conforms to the thumbprint to provide a pattern for the sensor to read. (Column 5, lines 59-66.) A photograph of a fingerprint would not produce a ridge pattern on the underside of membrane 58 for the sensor to read. Therefore, the Setlak et al. statement regarding reliability does not apply to the Bradney et al. optical fingerprint sensor. (We acknowledge that Bradney et al. teaches that membrane 58 is “preferabl[e],” which implies that a Bradney et al. optical fingerprint sensor may be built without the membrane. However, the Office Action provides no explanation of why one skilled in the art would want to replace all optical sensing elements of Bradney et al. with the electric field sensing elements of Setlak et al. instead of simply adding a membrane to avoid the deceptive use of a photograph.)

more against ESD *than an optical fingerprint sensor* (such as the one used in Bradney et al.). Therefore, the cited portion of column 6 of Setlak et al. would not have motivated the modification upon which the obviousness rejection relies.

Applicants acknowledge the statements in paragraph 10 (Office Action, pages 4-5) of how ESD might damage CCDs (although no prior art documentation is provided in support of these statements), and applicants also note in paragraph 11 (Office Action, page 5) the statement that the Bradney et al. apparatus does not use CCD technology. Therefore, there is no apparent purpose here for statements regarding ESD damage to CCDs. To justify the rejection, the PTO must explain why a modification of the Bradney et al. fingerprint recognizing apparatus would have been desirable. A reason to modify a fingerprint recognizing apparatus that uses CDD technology is irrelevant.

The Office Action continues in paragraph 11 stating that the Bradney et al. fingerprint recognizing apparatus would benefit from some form of ESD protection, because it would ensure that solid-state components in proximity to the finger are protected from damage. However, the Office Action does not identify any solid-state components that are supposedly part of the Bradney et al. fingerprint recognizing apparatus. Because the rejection is based in part on a belief that Bradney et al. elements need ESD protection, it is necessary to identify those elements *and* explain why the Bradney et al. apparatus supposedly would not already have such ESD protection. The Office Action does not identify any solid-state components, and it also does not explain why the ESD protection of them supposedly was insufficient, so the statement of supposed benefits is insufficient to justify the rejection.

Therefore, although the Office Action provides numerous statements asserting that it would have been obvious to modify the Bradney et al. fingerprint recognizing apparatus to

benefit from advantages, applicants have explained above why each of the purported advantages has not been shown to be applicable to the Bradney et al. fingerprint recognizing apparatus. For this reason alone, the modification has not been shown to be obvious, and the rejection should be withdrawn for at least the reason of not fulfilling the MPEP requirement that there must be some suggestion or motivation to modify the reference or to combine reference teachings

Nonetheless, applicants provide an additional and independent reason why the rejection of some of the claims does not comply with the MPEP: MPEP § 2143 requires that the modified prior art teach or suggest all claim limitations, and if the prior art technology were modified as described in the Office Action, this requirement would not be fulfilled. Applicants explain as follows:

Each of claims 1, 2, 7, 8, and 14 recites, explicitly or by dependency, a “contact section being electrically connected to the ground.” As indicated above, the rejection relies on the Bradney et al. flip-top cover 86 to teach the “cover” and on the area of the Bradney et al. membrane 58 to teach the “contact section” (see Bradney et al.’s Figs. 4a and 5a). It is acknowledged (Office Action, page 6, paragraph 16) that the area of the Bradney et al. membrane 58 is not connected to ground as claimed. Therefore, the rejection relies on Setlak et al. to suggest connecting the “contact section” to ground.

Setlak et al. discloses an embodiment of a fingerprint sensor *without* a cover in Fig. 2 and an embodiment *with* a cover in Fig. 4. In the first embodiment, electrode 53 is connected to ground though an unlabeled resistor. In the other embodiment, electrically conductive cover 53’ is connected to ground through charge bleed resistor 104. The rejection relies on the Bradney et al. embodiment depicted in Figs. 4a and 5a, and this embodiment has flip-top cover 86. Therefore, applicants submit that, if someone skilled in the art were to modify the Bradney et al.

fingerprint recognizing apparatus of Figs. 4a and 5a according to the Setlak et al. disclosure, that person would naturally rely on the Setlak et al. embodiment of Fig. 4 to obtain a modified fingerprint recognizing apparatus that had a cover. It would be counterintuitive to rely on the embodiment of Fig. 2, having no cover, instead.

As noted, in the Setlak et al. embodiment of Fig. 4, cover 53' is connected to ground. However, each of claims 1, 2, 7, 8, and 14 recite, explicitly or by dependency, that "the contact section is a separate element from the cover," and the claims require that the "contact section" is connected to ground. Because cover 53', the element disclosed as connected to ground, cannot be a separate element from itself, the modified Bradney et al. fingerprint recognizing apparatus would not have all claim limitations as required by MPEP § 2143. For this additional reason, the rejection of claims 1, 2, 7, 8, and 14 should be withdrawn.

Regarding claims 3 and 9-11, these claims recite, explicitly or by dependency, that "the contact section is arranged in a recess." As noted above, the rejection relies on the area of membrane 58 to teach the "contact section." Membrane 58 covers scan window 56, which Bradney et al. discloses is "preferably" located in a *raised* portion 62. (Column 5, line 59, to column 6, line 2.) A teaching of a raised portion cannot anticipate a "recess." Also, although Bradney et al. only discloses that a raised portion is preferable, the Office Action does not indicate any teaching that this area might be arranged in a recess as claimed. Therefore, the rejection has not been justified.

In summary, because of the lack of a proper reason to combine the teachings of the two prior art references, the rejection of claims 1-5, 7-11, 13, and 14 should be withdrawn. In view of the lack of a proper teaching of a "contact section being electrically connected to the ground" such that "the contact section is a separate element from the cover," the rejection of claims 1, 2,

7, 8, and 14 should be withdrawn for this additional reason. In view of the lack of a proper teaching that “the contact section is arranged in a recess,” the rejection of claims 3 and 9-11 should be withdrawn for this additional reason.

Claims 6 and 12 stand rejected under 35 U.S.C. § 103(a) as obvious over Bradney et al. in view of Setlak et al., and further in view of Gainey (U.S. Pat. No. 6,382,416). Applicants respectfully traverse this rejection.

The rejection of claims 6 and 12 is based in part on the rejection of parent claims 1 and 7, respectively, over Bradney et al. in view of Setlak et al. Above, applicants discuss why the rejection of claims 1 and 7 is not proper. For at least this reason, the rejection of dependent claims 6 and 12 is also not proper.

Claim 15 stands rejected under 35 U.S.C. § 103(a) as obvious over Holehan (U.S. Pat. No. 6,337,918) in view of Setlak et al. Applicants respectfully traverse this rejection.

Holehan discloses a personal computer with a touchpad 16. (Fig. 1.) The touchpad obtains information for fingerprint analysis. (Column 4, lines 32-40.) Specifically, touchpad 16 includes an infrared source/detector 19 that includes a plurality of infrared sources 20 and an infrared detector 24. (Column 3, lines 31-33.) That is, Holehan discloses an information processing unit that uses an *optical* fingerprint sensor.

The rejection relies on Holehan to teach an information processing unit as claimed, with glass 22 of touchpad 16 (and its upper surface 21) to teach the claimed “contact section,” except that, as acknowledged in the Office Action, Holehan does not teach a “contact section” electrically connected to ground as claimed. The rejection relies instead on Setlak et al. to suggest modifying the Holehan information processing unit to have a contact section electrically connected to ground.

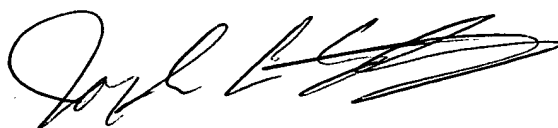
As motivation for this modification, the rejection relies on statements in Setlak et al., column 6, lines 55-58, regarding power consumption and ESD protection. However, as explained above, this quotation from Setlak et al. is not a comparison of the Setlak et al. electric field fingerprint sensor with prior art optical fingerprint sensors. Therefore, the Setlak et al. quotation would not motivate a person to modify the Holehan information processing unit as described in the Office Action. Thus, the obviousness rejection has not been justified. For at least this reason alone, the rejection should be withdrawn.

In a separate matter, the Office Action does not indicate review of the Information Disclosure Statement (IDS) filed on January 12, 2005. Applicants request that the Examiner indicate his review in his next communication.

In view of the remarks above, applicants now submit that the application is in condition for allowance. Accordingly, a Notice of Allowability is hereby requested. If for any reason it is believed that this application is not now in condition for allowance, the Examiner is invited to contact applicants' undersigned attorney at the telephone number indicated below to arrange for disposition of this case.

In the event that this paper is not timely filed, applicants petition for an appropriate extension of time. The fees for such an extension, or any other fees which may be due, may be charged to Deposit Account No. 50-2866.

Respectfully submitted,  
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP

A handwritten signature in black ink, appearing to read 'Joseph L. Felber', with a stylized, sweeping flourish at the end.

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